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I.

ON PULSATION OF THE JUGULAR VEINS.

Abstract of a Clinical Lecture lately delivered by Dr. Graves, at the Meath Hospital, Dublin.

Various Theories discussed: Lancisi's—Adams'—Barkow's.—The Phenomenon mainly depends on Hypertrophy and Dilatation of the Right Auricle.

GENTLEMEN,—At our last meeting I endeavored to trace the connexion which exists between certain symptoms and certain organic diseases of the heart. I shall now direct your attention to pulsation of the external jugular veins, and endeavor to assign to this symptom its proper diagnostic value. It is singular that authors speak with such uncertainty concerning the cause of so obvious a phenomenon. Lancisi, who first noticed this venous pulsation to be a symptom of diseased heart, considered it as a sign of aneurism of the right ventricle, and of course must have attributed it to a regurgitation from that ventricle, through the auricle, into the veins. This is also the opinion of Mr. Adams, who has written an excellent paper on diseases of the heart, in the fourth volume of the Dublin Hospital Reports. Mr. Adams observes :—“In the natural state of the heart, it is probable that there is constantly some little influx into the right

auricle during the contraction of its corresponding ventricle, as the valves readily admit it ; but the great swelling of the jugular veins is only seen where extraordinary efforts are made, or where, from any enlargement of the right side of the heart, it is capable of containing a larger quantity of blood than it can readily transmit through the lungs, or the left receive. On these occasions it is that the pulsations of the jugular veins become evident; they are synchronous with the action of the heart, and can more readily take place when the right ventricle has been preternaturally dilated, as it is not likely that the valve will increase in size and breadth in proportion as the auriculo-ventricular opening enlarges.” Bertin's opinion is similar to that of Mr. Adams, as he asserts that “pulsation of the jugulars is never observed except in cases of dilatation and hypertrophy of the right ventricle, and where the right auriculo-ventricular opening, being enlarged considerably, cannot be completely closed by its valve.” This seems also to have been the explanation Laennec gave of the same phenomenon, but Corvisart placed no reliance on it as a symptom. In a paper by Dr. Stokes and Mr. Hart on the actions of the heart, published in the Edinburgh Medical and Surgical Journal for October, 1830, the fol-

lowing observation occurs : " there is an interesting case at present under our care, in which a strong pulsation is evident in the external jugulars ; these pulsations are exactly synchronous with the impulse of the heart, which is precisely what should be anticipated, considering the impulse as synchronous with the contraction of the auricles." According to these gentlemen, therefore, the regurgitation into the veins is caused by the contraction of the right auricle, not by that of the right ventricle.

Before we examine these opinions more accurately, let us, gentlemen, recal to mind the appearances which we ourselves had lately an opportunity of witnessing in the three cases of diseased heart we lately examined, and in all of which, during life, the phenomenon of pulsation of the jugulars had been remarkably displayed. You may remember that in each of these cases there existed hypertrophy and dilatation of the right auricle and ventricle, together with a similar affection of the left auricle and ventricle. I paid particular attention to the state of the right auriculo-ventricular opening, and of the tricuspid valves ; but in neither could we detect anything morbid. This opening, it is true, measured in circumference about one-sixth more than the left auriculo-ventricular opening ; but we have seen this disproportion so often in persons who had no disease of the heart, that we must subscribe to the opinion of those anatomists who consider it, and the greater size of the right cavities compared with the left, as by no means an unhealthy state of parts, particularly in persons who, like our patients, had been afflicted with a tedious agony and long-continued dyspnœa, caus-

ing a considerable accumulation of blood in the right side of the heart. I cannot avoid, therefore, denying the inference that pulsation of the jugulars depends on enlargement of the right auriculo-ventricular opening, or deficiency of the tricuspid valves ; for we have just seen that in our three cases, these parts preserved exactly the same relations which we have frequently observed in hypertrophy and dilatation of the heart, although unaccompanied by jugular pulsation during life: neither can I assent to Mr. Adams' assertion, that the pulsations of the jugular veins are most evident where they are swollen and turgid ; for the fact was pointed out by Dr. Stokes, and verified by me, that in general this pulsation is much more perceptible in those states and positions of the body in which the jugulars are comparatively empty. It is worth while considering whether this pulsation of the jugulars, which always presents a sort of wave-like appearance, that at first view favors the theory of regurgitation, may not be rather owing to a motion resident in, and arising from, the coats of the vein itself. Barkow, the celebrated German physiologist, has lately observed, in living animals, that this wave-like pulsation of the veins near the heart not unfrequently continues even after the motion of the ventricles and auricles has ceased; and consequently he concludes that it is not dependent on the latter. There are other reasons, too, which render this probable. Thus this pulsation has occurred in veins too distant from the heart to allow of their being influenced by regurgitation. Hunauld, as quoted by Laennec, saw it very perceptible in the superficial veins of the arm, and Laennec himself saw a similar

case. But a case still more conclusive is related by Dr. Davis, in the 4th volume of the Dublin Hospital Reports :—"In a girl, six years of age, laboring under symptoms of acute hydrocephalus, there was a pulsation in all the veins, distinct and well marked, synchronous with the pulse, and in the veins of the extremities perceptible to the eye, even at the distance of two yards. The veins were rather larger than is usual at her period of life, and pressure on any of them stopped the pulsation between the part compressed and the heart, so that it obviously could not be caused by regurgitation from the auricle." This pulsation observed by Dr. Davis, agreed with the pulsation of the jugulars, in diminishing, and finally disappearing, as the vein, in consequence of the application of pressure between the part examined and the heart, became distended and tense with blood. Although no disease of the heart existed, and although the vascular system was in every respect healthy, yet Dr. Davis explains this venous pulsation as being continued from the heart, through the arteries and capillaries, to the veins. This explanation, however, is, for many reasons, inadmissible. In the first place, the case presented nothing in the strength of the heart's pulsations, or in the force of the pulse, which we do not meet with every day, and yet this venous pulsation is a very unusual occurrence. Secondly, we know that when the arterial system is in its ramifications much less minutely subdivided than it is in the capillary system of man, yet this subdivision is sufficient to prevent a propagation of the arterial pulsations to the vessels which arise from these ramifications. Thus, in animals with a *rete mirabile*, the

arteries of the brain do not pulsate, and the same observation applies to the arteries derived from the gills of fishes. These considerations are sufficient to show that, in Dr. Davis's case, the pulsation of the veins must have arisen from some cause residing in themselves, and totally independent of regurgitation on the one hand, or ventricular influence on the other. Another circumstance equally militating against both these suppositions, attracted your attention in one of our cases ; I mean the *double pulsation of the jugulars*. This double pulsation was not observable when the vein was swollen and turgid, at which time the pulsation was only single ; but as soon as this turgid state was diminished, in consequence of a diminution in the causes which produced the pulmonary obstruction, then the pulsation again became double. The first pulsation of the jugular was, as far as we could judge, synchronous with the heart's impulse against the ribs, and was immediately followed by another distinct wave-like pulsation of the vein ; after which was a short pause. If the heart's impulse against the side be caused by the systole of the ventricles, it is evident that we have no force, instantly succeeding it, to produce a second regurgitation ; for the ventricular systole is followed by a pause, or interval of rest, during which the auricles are filled. If, on the contrary, Dr. Corrigan's theory be assumed as correct, and the impulse against the side is caused by the ventricular diastole, then the first jugular pulsation might be attributed to regurgitation arising from the contraction of the right auricle, and the second regurgitation from the contraction of the right ventricle ; but when speaking of the sounds

and motions of the heart, I have already expressed my opinion, that, however ingenious Dr. Corrigan's theory may be, his experiments require to be multiplied and confirmed before we can assent to its truth. An experiment I showed you the other day deserves to be here noticed:—In a woman, whose external jugular on the right side had formerly presented the phenomenon of single wave-like pulsation in a very remarkable degree, but in whom this phenomenon had lately ceased nearly altogether—in this woman, when the finger is applied so as to compress the external jugular at about the middle of its course down the neck, and that the compression is suddenly removed, a wave-like pulsation takes place, not in the portion of the vein between the spot compressed and the heart, as it should do, were this pulsation owing to regurgitation, but at the other side,—a fact almost amounting to a demonstration that a power of motion exists in the veins, independent of the motive powers of the heart. It would appear that hypertrophy, with dilatation of the right auricle, is the disease indicated by pulsation of the jugulars; and the latter may be supposed to be produced by an hypertrophied state of these veins, imparting to them a greater motive power, which participates in the motion that, commencing in the sinuses of the venæ cavæ, spreads on the one hand to the auricles, and on the other to the cavæ and their more immediate subdivisions. Hypertrophy of the veins alone would be insufficient to account for it, as we see no such motions in varicose veins; neither is hypertrophy actually necessary for the production of venous pulsation, as is evident from Dr. Davis's case.

The veins near the heart, however, seem in a natural state, as is evident from Barkow's experiments, to enjoy an inherent power of producing wave-like pulsations, which power we may conceive to be increased by hypertrophy of these veins, although hypertrophy does not necessarily give rise to similar pulsations in more distant veins, as those of the extremities, which do not evince any pulsating power during health. I should not have detained you so long, gentlemen, in discussing this subject, but that I feel it to be a matter of great importance to determine the proper value of every symptom connected with so obscure a class of diseases as those of the heart. Although I look upon this pulsation as arising from a state of these veins always connected with hypertrophy and dilatation of the right auricle, yet as such a morbid change is, I believe, never unaccompanied by a similar state of the right ventricle, the existence of the latter may be also inferred from this symptom, which, it is to be observed, does not necessarily indicate either enlargement or diminution of the right auriculo-ventricular opening, or disease of the tricuspid valves.—Such, gentlemen, are the inferences we seem warranted in drawing from the three cases we have examined; but we must wait for the examination of similar cases, not only by ourselves, but by others, before we presume to put forward these inferences in the shape of general and invariable conclusions.

Lond. Med. Gaz.

II.

LIGATURE OF BOTH FEMORAL ARTERIES.

Case of Mortification of Right Leg—Amputation—Secondary Hemorrhage—Ligature of External Iliac—Recovery.

By JOHN BRAITHWAITE, Surgeon.

GEORGE BILLINGTON, a shoemaker, æt. 53, tall, of spare habit, and unhealthy aspect, was admitted a patient of the Macclesfield Dispensary on the 30th of July, 1829, and placed under my care. He complained of pain in the knees. On examination, an aneurism about the size of a walnut was discovered in the right popliteal space, and an incipient one in the left. These were so painful as to prevent him from following his occupation. A consultation of the medical officers of the institution, decided that no operation for the radical cure of these aneurisms should be recommended, as he was considered an unfavorable subject.

The action of the heart could be readily detected, beating with a peculiar thrill, over a greater extent of the chest than was natural, its pulsation intermitting on slight exercise; the left carotid, being much enlarged, beat with violence, and the whole arterial system acted with morbid force. He was directed to be kept quiet, and to take occasionally small doses of the sulphate of magnesia, with tincture of digitalis in an infusion of roses, with other remedies. A pain in the head, attended with a hard pulse, was relieved by bleeding. The aneurisms, however, gradually increased, and, in the following December, the one in the right limb had attained so large a size as to endanger its bursting. With

the unanimous concurrence of the medical gentlemen, I proceeded, on the 16th of December, to secure the femoral artery, by passing round it a ligature consisting of four threads, at exactly six fingers breadth below the groin. The ligature came away on the eleventh day, the wound was soon healed, and the patient in a little time returned to his work. In the course of two or three months after this, the aneurism in the left limb became very distressing, and by the 18th of June the pain from it was excessive, though it had not attained the magnitude which the other possessed previously to the operation. At a second consultation, it was recommended to tie the artery in this limb also. Its coats, on exposure, appeared thin and otherwise unhealthy; it was considerably dilated, and the sheath was found morbidly adherent to the vessel. After the operation, the limb was immediately enveloped in flannel, and the patient put to bed. He complained for a short time of slight giddiness and sickness. For about a fortnight he continued to do well. The ligature came away on the sixteenth day; he then complained of pain and coldness of the foot, attended with swelling. Anodyne and soothing fomentations were used, but the foot became more swollen, attended with congestion of the superficial veins. In this state, the limb was placed in scalded bran, of an agreeable temperature, and covered with oil-cloth. The disease continued progressive, and vesications formed in several parts of the leg and foot, which ended in mortification of the limb. With the intention of arresting this, he took bark in its various forms, combined with opium and ammonia; subsequently, pills with musk

and opium. He was allowed wine, porter, and nutritious food. The applications were the nitric acid lotion, cataplasms of linseed meal, and port wine lees; the chloride of soda lotion, with opium, and the like.

My patient appeared now fast sinking; he lay in a low muttering state, with subsultus tendinum, and picking of the bed-clothes; apparently there was no chance of his recovery. However, under the administration of full doses of opium and Cayenne pepper, now substituted for the musk and opium, at the suggestion of Dr. Swanwick, and during the application of the chloride of soda lotion with opium, the man rallied, and a line of separation formed on the anterior part of the leg, within two or three inches of the knee-joint, and on the posterior, within four or five. He was now exceedingly emaciated; two large ulcers on the back, occasioned by pressure, greatly adding to his irritation. Under these circumstances, there was obviously no chance for a natural separation of the mortified limb; and at a third consultation, amputation was recommended, which I performed above the knee on the 25th of July, the femoral artery in that limb having been taken up on the 18th of June. The incision made for that purpose appearing, at the time of amputation, quite healed, on removing the limb five ligatures were required to secure the bleeding vessels; and upon examination of it afterwards, I found the aneurism reduced to about the size of a small lemon, and filled with a firm coagulum. The artery had become firmly united to the vein by adhesive inflammation, and the inner coats of the vein, being united by the same cause, rendered the

vessel impervious. The stump was healed in about a month after the amputation, and my patient had regained considerable strength and spirits. Nothing now appeared likely to retard his rapid convalescence, when a hemorrhage unexpectedly took place on the 22d of August. It may be here necessary to state, that shortly after the amputation, the incision made for the purpose of tying the femoral artery, though at that time it appeared healed, began to discharge a little sanious matter, which it continued to do more or less till the time of the hemorrhage: it was from this little wound I found the blood issuing at a most alarming rate. Pressure for a short time arrested the bleeding, but it subsequently returned. A fourth consultation was called, at which it was agreed to pass a ligature round the external iliac. This being the evening of the 22d of August, the patient was so far reduced by the loss of blood that it was deemed advisable to defer the operation till the following morning. During the night, he was carefully watched by three medical pupils, who alternately kept up pressure with the finger; a full dose of laudanum was administered, and when the patient awoke or became restless, a few spoonfuls of sago gruel, with wine, were given to him. At six o'clock on the following morning, I proceeded to pass a ligature, consisting as before of four threads, round the external iliac: by following the directions given by Sir A. Cooper, I easily performed the operation, without my patient losing an ounce of blood. On being put to bed, he complained of no particular uneasiness, and soon fell asleep. The ligature came away on the eighteenth day, and up to this time

he has been gradually regaining his strength and spirits.—*Ib.*

III.

SIR HENRY HALFORD ON THE INFLUENCE OF SOME OF THE DISEASES OF THE BODY ON THE MIND.

THE accomplished physician and scholar whose name is mentioned above, and who, among other distinguished offices, graces the Presidential Chair of the London College of Physicians, has recently presented that body a history of the effects produced on the mind by diseases of the body. A short account of that classic production, as given in an English periodical, will not be uninteresting to our readers.

The effects of the passions on the body have been elegantly illustrated by Sir G. Baker, nor is the converse of the picture less interesting. The influence of disease on the mental faculties is various and extensive—now communicating “temporary power,” and now “permanent weakness ;” while so characteristic are some of these changes, that the physician is often able to discover, by attention to these secondary effects, what organ is at fault, without calling into play all those appliances which are usually adopted, in order that the whole case may be fully unfolded. Nor are the diseased conditions at all proportionate in danger to the degree of mental affection which they produce : a simple derangement of the digestive organs lays a weight upon the mind, rendering the individual irresolute and infirm of purpose ; whilst an inflammation of the brain, if it be slight, gives intensity to his faculties and animation to his imaginings.

Sir Henry stated it to be his intention to give only an outline of the effects upon the mind produced by some of the more marked and simple chronic diseases, leaving it to his hearers to fill up the details from their own experience.

Of apoplexy little was to be said, because before the attack the patient is generally merely torpid, and after it has occurred is insensible to all around ; so that, however momentous or interesting to others, may be passing events, “nothing touches him.” To apoplexy succeeds palsy, and happy he (said the learned President) “whose mind shall have been disciplined when in health, and whose moral habits shall have been well regulated by reason and by good principles before he was taken ill ; for otherwise, as all the passions are let loose by the malady (at least this is the case in many instances of palsy), whilst the controlling power is enfeebled, an irritability succeeds which makes life intolerable to the sick man and to all around him.” The picture of this melancholy state was further colored by vivid description, and illustrated by reference to the cases of the Duke of Marlborough and Dean Swift.

“From Marlboro’s eyes the tears of dotage flow,
And Swift expires a driveller and a show.”

Epilepsy, so much the terror of others, carries not mental suffering to the patient himself : he sleeps after the paroxysm, and awakes unconscious of what has passed. Repetition of the fits, however, weakens the intellect, and ultimately leads the way, in many cases, to madness or fatuity. This, however, does not apply to epilepsy which is merely sympathetic of derangement of the alimentary ca-

nal, or the forerunner of some eruptive disease, or other transient derangement. In this way were Julius Cæsar and Mahomet epileptics. In pulmonary consumption the frame is often lighted up, and everything looks cheering to the patient, where the friends and medical attendant see the prospect invariably ending in the tomb. The frame of mind in a hectic girl, with all the buoyance of youth, was then contrasted with that of a female more advanced in life—at the period when the menses cease: the former all hope, and the latter all despondency. This contrast the pathologist might perhaps attempt to explain by referring to the different conditions of the circulation in the two. The blood in the younger may be more oxygenated, from its more rapid circulation through the lungs; while, in the elder, there is a stagnation about the vena portæ, giving rise to hypochondriasis, and connected with the more loaded state of the ventral and hæmorrhoidal veins, from the cessation of the menstrual discharge.

The learned President next adverted to those cases in which the heart and great vessels were diseased. In these the paroxysms are dreadful, but the intervals are comparatively tranquil—like the calm which succeeds the tempest. Such patients, indeed, are “full of life,” and often are much less dejected than those who suffer only from derangement of the stomach. Their condition illustrates the observation of Paley, with respect to pain—“that its pauses and intermissions become positive pleasures; that it has a power of shedding a satisfaction over the intervals of ease which few enjoyments exceed.” That mere pain does not affect the faculties to any great ex-

tent, is also manifested by what we witness in *tic douloureux* and *iliac passion*; in which last, many days and nights of misery are insufficient to impair the judgment of the patient, or destroy his hopes. “From such sufferings as these (added Sir Henry, nearly in the following words), death may well be considered a happy release: indeed, before the glad tidings of pardon and peace in a future life, on certain conditions, had been proclaimed to the world by our Redeemer, so much intense suffering, nay, much less than that which is endured by a patient under fatal *ileus*, was considered by the most enlightened Romans as a sufficient reason for ridding themselves abruptly of life. The first book of Pliny’s Letters furnishes us with two instances of friends of his, one of whom had recourse to this apparently common practice, and the other intended to resort to it if the physician should pronounce his malady a mortal one. Their creed admitted an independent exercise of their free will and pleasure in the disposal of their lives. ‘*Ipse deus, simul atque volam, me solvet; moriar—mors ultima linea rerum est.*’ But the Christian has a higher motive for submitting himself to the will of heaven, and for bearing his sufferings patiently.”

Upon the whole, Sir Henry has been astonished that so few of the great numbers to whom he has ministered in their last hour, have been reluctant to part with life. Some, indeed, have clung to it with painful anxiety; but this has been more frequently from the agony of leaving their children to the mercy of the world, than from mere love of life. This part of the subject led the learned author of the paper to speak of the duty

of the physician, in withholding from, or communicating to, a patient the probable issue of a disease displaying mortal symptoms. He stated it to be his opinion that the first duty of the physician was "to protract the life of his patient by all practicable means," to interpose between him and whatever was calculated to aggravate his danger; and that, unless the patient should be averse from doing what is necessary in aid of the remedies, owing to the want of a proper sense of his danger, the medical attendant ought not to step out of his province to offer advice: at the same time he held it to be indispensable that the friends be informed of the danger the instant it is discovered. It is far better that friends should undertake the delicate subject of suggesting to the patient, at proper times and under the guidance of the physician, the necessity of arranging his worldly affairs, and preparing for his momentous change. But there may be no friends present—no one near him from whom the intimation of his danger would come with propriety; under such circumstances, Sir Henry said he should feel warranted in departing from his strict professional duty, and apprising the patient of his condition.

The part of the paper which followed was listened to with peculiar interest, from the direct relation it bore to the case of his late Majesty, as well as from other circumstances connected with some of the eminent individuals who were present. If discretion be required by the practitioner with regard to cases attended with danger in private life, this becomes doubly requisite in a personage "of a station so elevated, that his life becomes an object of anxiety to the nation."

The public, in their solicitude for the recovery of such a patient, frequently desire disclosures incompatible with his safety. The bulletins may become known to the Royal sufferer himself, and it cannot be admitted for a moment, that to relieve the anxiety or gratify the curiosity of the public, the physician ought to do anything to endanger the life or the comfort of his patient. "But (added Sir Henry) whilst it is his object to state as accurately as possible the present circumstances and the comparative condition of the disease, he will consider that conjectures respecting its cause and probable issue are not to be hazarded without extreme caution. He will not write one word which is calculated to mislead; but neither ought he to be called upon to express so much as, if reported to the patient, would destroy all hope, and hasten that catastrophe which it is his duty, and their first wish, to prevent. Meantime the family of the monarch, and the government, have a claim to farther information than can with propriety, or common humanity, be imparted to the public at large. In the case of his late Majesty, the King's Government and the Royal Family were apprised, as early as the 27th of April* [Sir Henry held in his hand the original letters which gave information to the Prime Minister], that his Majesty's disease was seated in his heart, and that an effusion of water into the chest was soon to be apprehended." It was not until the end of May that an opportunity occurred of acquainting his Majesty with his real situation. He then appointed an early day for receiving the Sacrament, and expressed himself as having derived great conso-

* The late King died on the 25th of June.

lation from this exercise of devotion. After this, Sir Henry thought himself warranted in interpreting the symptoms as favorably as they would admit, and was thus enabled to rally the spirits of his royal patient in the intervals of his suffering, and prevent him from dwelling on the painful contemplation of death until a few minutes before he expired.

IV.

SPONTANEOUS COMBUSTION OF THE HUMAN BODY.

IN the French National Academy, a very interesting and instructive case was related and discussed at the meeting in January of the present year. The case, we shall give below, as reported in an English contemporary. It will throw more light than any we recollect to have noticed, on that mysterious occurrence which has been often, but in our opinion wrongfully, set down as the result of habitual intoxication. Drunkenness is hideous enough in its best aspect,—it needs not the assumption of any horror which is not of right its own.

Academie Nationale de Medecine,
Jan. 4, 1831.

A man who had been laboring under severe illness for about a fortnight, and keeping his bed for the last three or four days of that time, was taken into the Hôtel Dieu, under the care of M. Bally. His complaint began with a head-ach, followed by colicky pains and diarrhœa, which lasted for three days. On his entering the hospital, it was remarked that his left thigh and scrotum were swollen, and his respiration short and impeded; but he complained of nothing, save a sensation of fatigue in

his lower limbs, by reason of which he was unable to support himself without difficulty. While under the influence of a delirium that lasted for some moments, he asserted that he had been bitten in the leg by a dog, but there was no trace whatever in the part, of any such accident having occurred. The man died in the night, and eight hours afterwards was examined. The bed on which the body lay was stained with blood, which had transuded from the thighs and trunk. In the nasal cavities, also, was contained some glutinous blood. The whole body was emphysematous, violet-colored, and marked with a vesicular eruption in detached patches, the vesicles filled with a reddish serum mixed with a gas. There was nothing but gas in those vesicles that were white. The left leg and thigh were more swollen and puffy than those of the other side; and they fluctuated on percussion. The abdomen was considerably distended with gas. The livid scrotum sounded like a drum; but the tympanitic affection belonged entirely to the peritoneum, not to the intestines. The brain and spinal marrow were apparently healthy. All the large vessels of the pia mater were filled with air. The lungs were sound and crepitating; the heart pale, flaccid, but full of blood. There were no traces of hemorrhage discoverable in the interior; so that the blood which made its appearance on the outer surface of the body, could only have come from the external eruption. In the great intestine there were found some ulcerated tubercles, but they did not go deeper than the mucous coat. The blood seemed to be all infiltrated into the surface of the limbs and the cellular tissue. Some deep

incisions were made into the puffy places, upon which there issued forth a gas that took fire the moment a bougie was applied to it. This experiment was repeated several times with the same result. But what was still more curious, a bougie having been presented to a perforation in the abdomen, a beautiful tuft of flame was formed, the base of which was blue and the top white, while the orifice itself from which it issued became incinerated. At the same time, it was remarkable that the gas contained in the intestines had no disposition whatever to be converted into flame.

This was M. Bally's case, upon the singularity of which the learned gentleman insisted. Of the cause of the singular appearances which it presented, he would pretend to give no explanation; the man had not been bitten by any animal, neither was he a person given to intoxication; but M. Bally was inclined to think that the circumstances were all favorable to M. Marc's opinions about the spontaneous combustion of the human body. He would go farther and say, that a single electric spark would have been enough to have caused the patient to suffer as did the Italian priest, whose shirt and cap were burned, and who eventually lost his life, in a well-known case of spontaneous combustion.

A long discussion ensued upon the recital of the case, in which MM. Bouillard, Rochoux, Louis, Emery, Naquart, and Moreau, successively took a part; but these gentlemen were pretty generally inclined to think that there was little or no analogy between this and any of the cases of spontaneous combustion on record. They were rather disposed to say that the development of the gas was not

a pathological, but a chemical phenomenon—the result of putrefaction; and putrefaction, they thought, might set in before life was extinct, of which some cases in point were cited.

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THE AIR OF VAULTS.

WHEN long and closely confined, the air of vaults becomes highly noxious, and the occupation of those who clear them, unless pursued with some knowledge and more caution, is attended by serious danger. The immediate sources of this danger, and the means which have been employed to avert it, are subjects which it may be deemed meet, at the present time, that we briefly discuss.

Two kinds of air are produced in these receptacles. One of them is not disposed to expand itself, but remains, for the most part, near the surface where it is generated. This gas is ammonia. It is readily recognised by its immediate effects on the system, which are sufficiently familiar,—such, e. g., as a sense of tingling in the nose, smarting in the eyes, and stricture within the fauces. The other gas is lighter and more penetrating; of an offensive odor, and capable of infecting the atmosphere to a considerable extent from the place of its evolution. If the vault is situated near the house to which it appertains, this gas will find its way into it, and communicate both odor and color to the linen and articles of clothing, although ar-

ranged in presses of ordinary closeness. The chemical nature of this gas is not fully ascertained; it seems, however, to be azote charged with animal matters in a volatile state. Its effects on the system are, to destroy the appetite, to diminish the muscular power, and to impair the color and clearness of the skin. Its chemical action is manifested on gilding, varnished surfaces, and other matters with which it comes in contact.

It is to this last gas, and not to the ammonia, that the fatal effects sometimes resulting from a descent into vaults, are to be ascribed. The individual exposed to its influence when in a concentrated state, is affected suddenly with a sense of heaviness and oppression, with constriction in the throat and a stifled suffocating cough; he utters a cry, more or less distinctly, becomes convulsed, and unless succor be promptly afforded, immediately expires.* This state of things may be regarded as resulting, in a great degree, from the poisonous nature of the substances with which the air is mixed. The treatment which has been found most useful under these circumstances, is in conformity with this supposition. It consists in with-

drawing the individual from the place of the accident, placing him in the open air, rubbing the surface with vinegar, giving stimulants until the vital powers are renovated, and then administering an active emetic. In a treatise devoted to this subject, and got up under the orders of the French Government in 1785, the author, M. Hallé, advises to have recourse to tartar emetic combined with cordials, in order to obtain vomiting as soon as possible. M. Fodere regards this point as so important, that he advises a tube to be passed into the stomach, where the patient has lost the ability to swallow, for the purpose of introducing a compound of this description.

It is easy to conceive that in large cities, in which many of the houses are crowded with inhabitants, the dangers arising from cleansing vaults must be materially greater than where the population is more scattered. In most foreign cities, it is customary to have waterclosets on each story of a building, with pipes communicating with a common receptacle, usually kept hermetically sealed, and opened only when it becomes necessary to evacuate its contents. The effect of the unguarded exhalation of vapors thus pent up and condensed, may be readily imagined, and the instances in which life has been lost in this way, are by no means infrequent. In Paris, where this system is universal, these unfortunate occurrences are so numerous as to make every expedient for their prevention matter of public interest; and the following are but a part of the precautions employed

* It is well known here, that the fourth man who descended into the vault in Essex Street, and who never recovered, took the precaution (suspecting some danger) to grasp the hand of the one who remained above, with the promise, on the part of the latter, that he would hold on if possible. The former had not reached the bottom before his friend found it impossible to retain his hold. This may have been occasioned by the increased weight of the body when the vital spark left it, but more probably, at an earlier period, by some convulsive effort such as here alluded to.

in that city, when it becomes necessary to empty the vault of a house inhabited by a large number of families, or when, from any other cause, the accumulation is considerable.

1. To close all the *sieges d'aisance* of the different stories, except the highest, on which is placed a grate, open at the bottom, and called the ventilator, which is filled with charcoal well ignited, and which establishes a current of air in the same manner as the ventilators for hospitals alluded to in one of our late numbers. When the *fosse* is opened below, the external air rushes in to supply the place of that drawn off above, and thus is the air of the vault gradually purified or changed. During this process, it would seem that the animal matters mingled with the gas in the form of vapor, are actually burned and consumed; and this effect is sometimes farther ensured by placing another furnace on a stool within the vault, which also is supplied with air from without.

2. To use caution in first disturbing the contained mass,—standing at a distance and averting the face.

3. To avoid opening the mouth, speaking or coughing, in descending into the vault. Since the discovery and full evidence of the disinfecting power of chlorine gas, the chlorides have been frequently employed on these occasions, to render the process less disgusting and dangerous. How far this measure may of late years have rendered it possible to dispense with the other precautions above stated, we are not able to announce; it is to be presumed, however, that however much the free use

of these salts may contribute to the comfort of the workmen, their security would be greater under the ancient, which we doubt not is still the prevalent, *regime*.

In observing these furnaces burning while surrounded by the air of the vault, it has been remarked that the combustion, instead of being rendered more dull by its action, has become in fact more active, although the vapor has seldom, if ever, been noticed itself to become inflamed. It usually assumes the appearance of a cloud, which flickers around the basin. The persons engaged in this business call the process *bruler le plomb*, in reference to the sense of weight or heaviness which the vapor produces when inhaled. This circumstance may be regarded as confirming the opinion that this gas is azote mingled with some animal oil, is a real poison in its action on the system, and should be distinguished as such from those which tend to produce simply an asphyxia.

Constructed as such receptacles are with us, the character of these vapors, and the means of counteracting their effects, are matters rather of scientific interest than of great practical importance. In most situations, the contents of our vaults are more or less exposed to the atmosphere, and in those of recent construction, a small chimney or ventilator is a pretty uniform appendage. Although of easy access, it is customary for one of the laborers to descend into them to aid in completing their evacuation, and yet the fatal consequences of such descent are exceedingly rare. A few weeks

ago, we were called to notice two sudden deaths from this cause, and the narrow escape of two other persons who were poisoned by entering the same vault; with these exceptions, we recollect no accident of the kind in this city. The means of safety alluded to, may therefore be regarded as in most cases superfluous. They may, however, at some future time, be of no secondary importance, and are therefore worthy the attention of our active and intelligent police.

STRICTURE OF THE COLON.

Mr. Howship, of St. George's Infirmary, London, has recently published a little treatise, having for its object to show that spasmodic stricture in the colon is the frequent proximate cause of constipation, both acute and chronic; and that these affections may often be relieved by enemata of warm fluid, administered with certain necessary precautions. The first proposition he maintains by many ingenious arguments, and some interesting cases; the last, however, is the most satisfactorily demonstrated, and is probably the one to which our readers, as well as ourselves, will attribute the greatest importance.

On the 19th of May, 1826, Mr. H. was called to a boy, ten years of age, who had been attacked, on the 13th, with symptoms of enteritis—for which he was bled, &c., with relief. On the 17th, the symptoms returned with increased violence. When Mr. H. saw him, the tenderness of the abdomen was such that the weight of the bed-clothes could

not be borne. About every ten minutes there was an increase of pain, which seemed to follow the course of the transverse colon. Toward the left side, there could be felt an indurated mass within the abdomen, when slightly touched with the hand. Medicines were directed, but without effect. The next day, a blister and aperients were ordered, but in vain; the disease appeared to increase, and the patient was evidently in great danger. It was on the evening of this day, that Mr. Howship determined to try the effect of a copious injection. The fluid employed was warm gruel, about the temperature of 96 deg. The operation was commenced so slowly as to occupy five minutes in injecting the first half pint. At first it was observed that the intrusion of the fluid, and the distension of the bowel, increased the pain and spasm; but as the quantity was increased, the bowel became more relaxed and less irritable, and the pain diminished in proportion. When three pints were injected, the boy expressed himself much easier; his skin had become soft, and the pulse had sunk from 110 to 75 beats in a minute. Presently afterwards he got up, and passed a copious dejection of soft yellow feces, of intolerably fetid odor. He slept well that night without medicine, and was found the next day complaining only of hunger. The tumor had disappeared, and the pulse was at 74. In three days he was well.

Mr. H. next proceeds to relate cases which he believes to afford proof that the intestines are occa-

sionally subject to a permanent kind of spasm, "so far, at least, permanent, as to continue for many years; yet so far spasmodic as to admit, under proper treatment, of being removed in a few weeks." We think this business-like mode of explaining the matter, without any affectation of an unallowable accuracy, does credit to Mr. Howship's practical good sense. We shall not, however, attempt to abridge his cases, or even to relate the symptoms by which he thinks this peculiar affection of the colon may be distinguished, but content ourselves with selecting the following directions for giving enemas, when the object is to procure relief to the patient by producing a full distension of the colon and rectum. According to Mr. H., this requires—

1. That the fluid should be introduced with the least possible disturbance to the sphincter, for which purpose the tube conveying it should always be passed carefully.

2. That this fluid should be of one and the same temperature on every occasion, viz., as near as possible to blood-heat, or 96 deg. Fahr.

3. That the fluid be introduced at first very slowly, and the instrument used be so easy and free in its action, that as the liquid passes up, the hand of the operator may be sensible to any increase of resistance, independently of any expression of complaint on the part of the patient.

4. The quantity introduced should be accurately observed as the operation proceeds, in order that, as the

fluid cannot make its way beyond the valve of the colon, this quantity may not exceed the healthy capacity of the intestine. When introduced, it should be retained a certain time, varying from fifteen to thirty minutes, in order to produce the most favorable effect.

5. That in the chronic cases above alluded to, the operation, in order to be successful, should be daily repeated for three weeks or a month.

ACUTE LUMBAGO.

A CASE of this disease, of great violence, was lately received into St. Thomas's Hospital, under the care of Dr. Elliotson. The patient, when he was admitted, was not able to sit or stand. At the time the Doctor first saw him, he was supported by two persons on the edge of a bench. The pain was so severe that he was drawn backwards; his face was expressive of the most violent anxiety; and his features contracted when he roared out with pain. He was free from affection of the kidneys or ureters. There was great tenderness all over the loins, and profuse perspiration, exactly as occurs in acute rheumatism. The temperature of the body was increased, and the pulse quick. The Doctor ordered him to be immediately cupped over the loins, to the extent of a pint, and then three grains of opium administered, and half a drachm of colchicum wine every eight hours. This treatment afforded immediate relief, and in a few days he was perfectly well.

Dr. John A. Smith has been appointed President of the College of Physicians and Surgeons of New York, vice Dr. Watts deceased.

Whole number of deaths in Boston the week ending April 1st, 17. Males, 4—Females, 13. Of consumption, 3—unknown, 4—dropsy, 2—lung fever, 2—old age, 2—disease of spine, 1—nervous fever, 1—abscess on brain, 1—disease of heart, 1.

ADVERTISEMENTS.

VELPEAU'S MIDWIFERY. This day received and for sale by **CARTER, HENDEE & BABCOCK**—An Elementary Treatise on Midwifery, or Principles of Tokology and Embryology. By **Alf. A. L. M. Velpeau, M.D.** March 29.

COPARTNERSHIP NOTICE. **JOHN COTTON** and **DAVID CLAPP, JR.** have taken **HENRY S. HULL** into copartnership, and the printing and publishing business, which has heretofore been conducted at 184 Washington St. in the name of **JOHN COTTON**, will be continued under the firm of **CLAPP & HULL**.

D. C. and **H. S. H.** will give their personal attention to **BOOK AND JOB PRINTING**, of every variety, which will be neatly and correctly executed, upon reasonable terms.

Booksellers and authors are informed that the printing of medical and other works, of any size, will be undertaken as above, and every branch of their mechanical execution will receive particular attention. March 29.

THE NATURALIST. Devoted to Zoology, Botany and Mineralogy, illustrated by Lithographic Prints, edited by **D. JAY BROWNE**, aided by distinguished Naturalists, and published monthly by **Peirce and Parker**, No. 9 Cornhill, Boston. Each number contains 32 octavo pages. Price, Two Dollars a year in advance. March 22.

NOTICE. Those gentlemen who are yet indebted for the 1st vol. of the *Med. and Surg. Journal*, from Feb., 1828, to Feb., 1829, are hereby notified, that, after four weeks, the Proprietors of that Volume have authorized **Mr. S. Smith** to collect all that is due to them for it; and the present Proprietor respectfully requests that those indebted to him for the *Medical Intelligencer*, and the 2d and 3d vols. of the *Med. and Surg. Journal*, will forward all arrears. **JOHN COTTON.**

The subscribers above mentioned for said 1st vol., are hereby requested to remit payment for the same to the subscriber, at the office of the *Boston Daily Advertiser*. **SAMUEL SMITH**, Agent for said Proprietors.

March 1, 1831.

COPARTNERSHIP NOTICE. The subscribers have formed a connexion in business as **CHEMISTS, DRUGGISTS & APOTHECARIES**, at Apothecaries' Hall, No 188 Washington Street, opposite Marlboro' Hotel, under the firm of **JARVIS & PEIRSON**.

NATHAN JARVIS.
GEORGE W. PEIRSON.

EUROPEAN LEECHES.

J. & P. have a few fine European Leeches—to the application of which, when directed by Physicians, they will attend without any additional charge.

Feb. 8.

WILLIAMS ON DISEASES OF THE CHEST. This day received, by **CARTER & HENDEE**, "A Rational Exposition of the Physical Signs of the Diseases of the Lungs and Pleura, illustrating their Pathology and facilitating their Diagnosis." By **CHARLES J. B. WILLIAMS**. Dec. 6.

BECLARD'S GENERAL ANATOMY. **CARTER, HENDEE & BABCOCK** have this day received—Elements of General Anatomy, or a Description of every kind of Organ composing the Human Body. By **P. A. BECLARD**, Professor of Anatomy of the Faculty of Medicine of Paris. Preceded by a critical and biographical Memoir of the Life and Writings of the Author. By **OLIVIER, M.D.** Translated from the French, with Notes. By **JOSEPH TIGNO, M.D.**, Member of the Philadelphia Medical Society. Dec. 28.

The *Boston Medical and Surgical Journal* is published weekly, by **CLAPP & HULL**, at 184 Washington St. corner of Franklin St., to whom all communications must be addressed, *post-paid*.—Price three dollars per annum, if paid in advance, three dollars and a half if not paid within three months, and four dollars if not paid within the year. The postage for this is the same as for a newspaper.